

Abstract for BD

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Review describing the similarities between the content of terpenes in *Mentha piperita* and flavonols in *Fagopyrum sagittatum* (*Fagopyrum esculentum*) and *Fagopyrum tartaricum*.

The methods used for distillation of menthol and other terpenes from *Mentha piperita* and of flavonols from *Fagopyrum sagittatum* (*Fagopyrum esculentum*) and *Fagopyrum tartaricum* is discussed.

Mentha piperita contain different amounts of oil in different parts of the plants. Younger leaves contain more oil by weight than older leaves. The oil content is influenced by external factors such as light and temperature.

The ratio of menthol:menthone in oil distilled from *Mentha piperita* is also discussed. In fresh leaves menthol comprises 35.68%, in one day old leaves menthol comprises 36.57% and in 4 days old leaves menthol comprises 40.90%. Menthone comprises 43.42% in the fresh leaves, 42.73% in day old leaves and 37.45% in 4 days old leaves. The sum of menthol-menthone in the oil is 79.10% in the fresh leaves, 79.30% in one day old leaves and 78.35% in four day old leaves. Thus, the %-sum of menthol-menthone practically remains constant.

The leaves, flowers, fruits and stalks of *Fagopyrum sagittatum* (*Fagopyrum esculentum*) and *Fagopyrum tartaricum* were examined for their content of total flavonols and rutin. Flavonols were found in all organs except in the fruits of *Fagopyrum sagittatum*.

Leaves and flowers from the earliest stage of development contained the highest content of flavonols and rutin by weight. The content of flavonols and rutin decreases during development of the organs. The maximal amount of flavonol for the seed leafs is during the development of the petals, the maximal amount of flavonol for the petals is in the bud stage and the maximal amount of flavonol of other leaves is when the plant is in full bloom.

The stalks or stems does not contain measurable content of flavonols until during the later stages of development (bud to flower stages), while more flavonol is found in the stalk sections top half of the seed leafs than in the bottom half of the stalk sections. The stalks from *Fagopyrum tartaricum* contain more total flavonol and rutin than the stalks from *Fagopyrum sagittatum*.

The ratio total flavonol:rutin increases in favour of total flavonoid in the course of development of the examined organs.